

# Submission to BC Royalty Review

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## Introduction

The CCPA-BC thanks the BC government for the opportunity to comment on BC's Royalty Review. The Canadian Centre for Policy Alternatives is an independent, non-partisan research institute concerned with issues of social and economic justice. Since 1997, the CCPA-BC has done extensive research on BC's oil and gas sector, including numerous economic studies and analyses of BC's regulatory regime, climate policy and energy transition, and tax breaks and subsidies associated with upstream oil and gas production and future LNG production.

In this submission, we begin with the increasingly obvious requirement that the oil and gas sector needs be phased out due to the urgent need to address climate change. BC simply cannot continue the status quo of limited and incremental climate action on one hand while seeking to expand fossil fuel production on the other. Put another way, the royalty review must break with the idea that more investment in the oil and gas industry is desirable, and instead must be supportive of a managed wind down of the industry, with a focus on ensuring a just transition for workers and returns to the public treasury and local First Nations during the transition period.<sup>1</sup>

# Oil and gas in BC: The big picture

The economic importance of the oil and gas production sector in BC is overstated in the government's discussion paper while the sector's climate and environmental impact is understated. The discussion paper claim that the sector represents 4 per cent of GDP misreads the economic accounts by including the mining sector.<sup>2</sup> Instead, the direct contribution of oil and gas is half as much, about 2 per cent of GDP, with support activities adding another 0.2 per cent.

<sup>&</sup>lt;sup>1</sup> Royalty reform is one of the pillars of a managed wind down strategy, as articulated by M. Lee and S. Klein, *Winding Down BC's Fossil Fuel Industries: Planning for climate justice in a zero-carbon economy*, March 2020, https://www.policyalternatives.ca/publications/reports/winding-down-bc%E2%80%99s-fossil-fuel-industries.

<sup>&</sup>lt;sup>2</sup> BC Ministry of Energy, Mines and Low Carbon Innovation. Options for Reforming British Columbia's Natural Gas Royalty Framework: A Discussion Paper, November 2021, https://engage.gov.bc.ca/app/uploads/sites/716/2021/11/BC-Royalty-Review-Discussion-Paper.pdf.

In terms of jobs, just over 3,000 workers are employed directly by the upstream oil and gas industry and its support activities, about 0.2 per cent of total employment in BC, plus related indirect jobs in trucking of materials to fracking sites.<sup>3</sup> Jobs are more significant on a regional basis, however, accounting for about 10 per cent of the total jobs in BC's Northeast region.<sup>4</sup>

In spite of these modest economic contributions, the oil and gas sector is responsible for a disproportionate share of BC's greenhouse gas inventory. Upstream oil and gas accounted for 13 million tonnes (Mt) of carbon dioxide equivalent (CO<sub>2</sub>e), or 19 per cent of BC's 69 Mt total emissions in 2019. A large share of those emissions are methane, which are converted into CO<sub>2</sub>e using a global warming potential (GWP) of 25 times that of CO<sub>2</sub> over a 100-year period. Because methane only lasts about 12 years in the atmosphere before breaking down to carbon dioxide and water, and warming now and in the near future is top of mind, a more suitable GWP is 86 times CO<sub>2</sub> over 20 years (based on Intergovernmental Panel on Climate Change). Using the latter measurement would dramatically increase BC's total reported GHG emissions by one third, an additional 22 Mt CO<sub>2</sub>e.

In addition, the carbon emissions from oil and gas extracted in BC and exported to other jurisdictions are not counted in the provincial total. For example, BC's record production in 2020 of 61.6 billion cubic metres is equivalent to 118 Mt of  $CO_2$  when combusted, almost double BC's reported GHG emissions. Only a portion of these emissions (those from domestic consumption) is counted in BC's GHG inventory.<sup>5</sup> This accounting convention creates incentives to limit climate action to lowering emissions from upstream production (through electrification and reducing leaks of methane in equipment) while seeking to expand production for export.

In addition to GHG emissions, the central technology for extracting gas is hydraulic fracturing and horizontal drilling ("fracking"), which has other local environmental impacts. One of the most significant is the industry's use of water. On average, it now takes the equivalent of 12 Olympic swimming pools of water to frack one natural gas well in the South Montney region, with some operators using far more water than that to "stimulate" gas production at their well sites.<sup>6</sup>

The fracking industry's use of water is very different than other industrial users. The pulp and paper industry, for example, is required to treat its water before returning what it in effect has borrowed back to the environment. The fracking industry, by comparison, does not treat its toxic wastewater in any way. It simply injects it deep into the ground for disposal. In addition to the industry's consumption of large amounts of water, it utilizes an extensive network of dams, reservoirs and borrow pits to store that water. This includes a large number of dams built by the fracking industry without proper authorizations, which meant they violated both provincial water and dam safety regulations.<sup>7</sup>

<sup>&</sup>lt;sup>3</sup> Statistics Canada. Labour statistics consistent with the System of National Accounts (SNA), by job category and industry, Table: 36-10-0489-01, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610048901.

<sup>&</sup>lt;sup>4</sup> BC Statistics. Employment and unemployment rates by industry and development region, https://www2.gov.bc.ca/assets/gov/data/statistics/employment-labourmarket/lfs\_employment\_and\_unemployment\_rate\_by\_industry\_and\_development\_region.xls.

<sup>&</sup>lt;sup>5</sup> Authors' calculations based on standard emission factors, and production data from Government of British Columbia, Supply and Distribution of Natural Gas in British Columbia, accessed November 16, 2021, http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-gas-oil/productionstatistics/gasnew.xls.

<sup>&</sup>lt;sup>6</sup> Chapman, A. "Hydraulic Fracturing, Cumulative Development and Earthquakes in the Peace River Region of British Columbia, Canada" in *Journal of Geoscience and Environmental Protection*. Vol. 9 No. 5, May 2021.

<sup>&</sup>lt;sup>7</sup> Parfitt, B. "Easy Water: Time bombs, fracking dams and the rush for H2O on private farmlands" in *Policy Note*, March 29, 2018, https://www.policynote.ca/easy-water-time-bombs-fracking-dams-and-the-rush-for-h2o-on-private-farmlands/.

The CCPA-BC, along with numerous other organizations, believes that the very low water rental fees charged to the natural gas industry should be reviewed simultaneous with the royalty review.<sup>8</sup> Currently, natural gas companies pay just \$5.62 for each Olympic swimming pool-equivalent of water they use, toxify and permanently remove from the hydrological cycle.<sup>9</sup>

The oil and gas industry is also subsidized through low "heritage" industrial electricity rates paid to BC Hydro and the Crown corporation's development of new sources of power generation and new transmission lines for resource projects. These measures should also be phased out as part of a wind down of the industry.

The direct and indirect impacts of oil and gas development have led to devastating cumulative impacts on the land base of the Northeast, with particular detriment to Treaty 8 First Nations. The recent landmark decision in BC Supreme Court (*Yahey v. British Columbia*) concluded that the provincial government had utterly failed to consider the cumulative impacts on the Blueberry River First Nation's treaty-protected rights to hunt, fish and trap within their traditional territory, because almost nothing of it remained that was not very close to gas industry developments.

In summary, the oil and gas industry is a marginal player in BC's overall economy, yet has far-reaching environmental impacts, is inconsistent with global climate action, and undermines First Nations' rights and title. And yet, since BC started to implement climate action targets and policies in 2007, gas production has doubled to 61.6 billion cubic metres. BC's continued pursuit of oil and gas expansion undermines public trust in the provincial climate plan, CleanBC, water regulation, and its legislative commitment to support the United Nations Declaration on the Rights of Indigenous People.

BC's dogged pursuit of LNG is doubling down on these troubling consequences of oil and gas development. The LNG Canada Phase One terminal compromises BC's climate plan, and will become the province's largest point-source emitter on the day it opens in 2025. BC has now set a sectoral target for oil and gas of a 33–38 per cent reduction by 2030 and thus production should be on a declining pathway. LNG Canada also inhibits BC's ability to table more ambitious targets (in light of the urgency needed for global climate action and BC's fair share of emission reductions) and will make it virtually impossible for BC to meet even its (currently insufficient) 2040 and 2050 GHG targets.

In this context, the government's concern with the "competitiveness" of the royalty regime is misplaced, as is further economic development of the oil and gas industry. Since BC is a higher-cost jurisdiction located far from major markets, a calculus that emphasizes costs of production vis-à-vis other jurisdictions only leads to polices that sacrifice public royalty revenues in order to gain jobs and investment.

# BC's broken royalty regime

The CCPA-BC has long been critical of the royalty regime for oil and gas in BC. The royalty framework is beneficial to the oil and gas industry in that it essentially shares the risks of oil and gas development.

<sup>&</sup>lt;sup>8</sup> CCPA-BC. "BC oil and gas royalty review seriously flawed without consideration of water" in *Policy Note*, November 25, 2021, https://www.policynote.ca/fracking-water/.

<sup>&</sup>lt;sup>9</sup> Parfitt, B. "Thirsting for information: reforms to industrial water use badly needed" in *Policy Note*, February 3, 2021, https://www.policynote.ca/industrial-water-reform/.

However, we note that the royalty regime is just one part of an overall regulatory framework for oil and gas that is overly favourable to the industry.

The regulator, the Oil and Gas Commission, has all the hallmarks of being captured by the oil and gas industry it supposedly oversees.<sup>10</sup> Examples of this include: dozens of dams built by the fracking industry under the Commission's watch without water licenses first being obtained and dam safety plans vetted by relevant provincial authorities; withholding information on aging natural gas wells leaking methane and contaminating groundwater; and withholding information on natural gas companies that violated guidelines on protecting the habitat of endangered boreal caribou populations. The Commission has also only infrequently used the powers at its disposal to heavily penalize companies when they violate provincial environmental regulations.

The Independent Assessment of the royalty system carried out as Phase 1 of the provincial review<sup>11</sup> reiterates many of the critiques the CCPA-BC has made about the royalty system, and its analysis is deepened through access to internal Ministry data sources. That said, the Independent Assessment is still rooted in the notion of achieving a more efficient royalty system while sidestepping the central issue of the need for the industry to be managed for wind down.

In short, BC's regime is aimed at spurring production. As the Independent Review notes: "The current programs—low productivity, marginal, and ultra-marginal well rate reductions—comprise a class of incentives that are designed to encourage production by reducing the royalty rate per unit volume from wells that might otherwise be shut in and encourage development of new wells that might otherwise be uneconomic." This subsidized production puts further downward pressure on already-low gas prices. As a result, these subsidy programs cannibalize the royalties back to the Treasury (which are largely based on price).

While we tend to consider oil and gas as two distinct products, there are many intermediate hydrocarbon chains generally known as natural gas liquids (NGLs) and condensate.<sup>12</sup> The Ministry discussion paper has too narrow of a focus on methane (natural gas) without any comment on condensates and NGLs. Yet, these latter categories are more lucrative than methane alone and BC producers typically seek to drill wells that are high in condensate and NGLs. This distinction is significant because of the economic importance of condensate, which is exported to Alberta where it is used to dilute bitumen so it can flow through pipelines. In fact, the southern Montney region where most drilling and fracking activity is currently occurring has been characterized not as a natural gas play, but as a liquids play. The Institute for Energy Economics and Financial Analysis reports up to 20–25 per cent liquids content in BC wells that boost the value of production.<sup>13</sup>

BC's royalty regime includes two parts: the auction of Crown leases and associated fees, plus net royalties paid on ensuing production. After companies bid in auctions for land tenure rights for exploration, they pay a royalty on actual production net of various credits. However, as the Independent Assessment points out, the

<sup>&</sup>lt;sup>10</sup> Parfitt, B. Captured: British Columbia's Oil and Gas Commission and the case for reform, August 2019, https://www.policyalternatives.ca/publications/reports/captured/.

<sup>&</sup>lt;sup>11</sup> Olewiler, N and J. Winter. A Review and Assessment of the Natural Gas Royalty System in British Columbia, prepared for the Government of British Columbia, September 2021, https://engage.gov.bc.ca/app/uploads/sites/716/2021/10/BC-Royalty-Review-Independent-Assessment-Sep-2021.pdf.

<sup>&</sup>lt;sup>12</sup> Natural gas is methane, the simplest hydrocarbon. Intermediate hydrocarbon chains include ethane, propane, butane, isobutane, pentane and condensate.

<sup>&</sup>lt;sup>13</sup> Institute for Energy Economics and Financial Analysis. Review of LNG Canada Post-FID: Delays, Policy Changes, Rising Costs, November 2021, https://ieefa.org/ieefa-Ing-canadas-bc-project-likely-last-for-countrys-liquefied-natural-gas-industry/.

current system has evolved to become very complex, with multiple rates, thresholds, deductions and credits for different types of oil and gas, all of which present opportunities for gaming the system.

Figure 1 shows the total dollar value of production for oil/condensate and methane (natural gas) along with the total public revenues (Crown leases and royalties combined) over the past two decades. In total, BC's royalty regime generated \$27.6 billion for the Treasury between 2000/01 and 2020/21, comprising 24.7 per cent of the \$112 billion in total value of produced.<sup>14</sup> The glory days of large revenues from auctions of Crown leases—\$6.5 billion between 2005/06 and 2010/11, in particular—are long gone, and arguably so are the most valuable sites.

### Figure 1



Source: BC Financial and Economic Review 2021.

The value of oil and condensate is now on par with, and in some recent years more than, the value of natural gas extracted. While auctions of Crown leases are for all oil and gas production, and there are published data on natural gas royalties (Figure 2), there are no publicly available data on condensate and NGL royalties. Condensate production has surged from 0.3 million cubic metres in 2010 to 2.1 million cubic metres in 2020,

<sup>&</sup>lt;sup>14</sup> Government of BC Financial and Economic Review has historical value and royalty revenues, https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/government-finances/financial-economicreview/financial-economic-review-2021.pdf. Not shown in Figure 1 but included in the production value total is a small amount of liquid petroleum gas and sulphur production. Sales of Crown leases from BC government, "Fiscal Year Statistics" in Sales Results & Statistics, accessed Nov 16, 2021, at https://www2.gov.bc.ca/gov/content/industry/naturalgas-oil/petroleum-natural-gas-tenure/sales-results-statistics.

while oil production has declined from 1.3 million cubic metres in 2010 to 0.8 million cubic metres in 2020.<sup>15</sup> The implication is that effective royalty rates for condensate and NGLs are extremely low.

Figure 2 illustrates the well-known decline in royalty revenues for natural gas alone. Over the past decade in particular, royalty revenues have dropped off substantially while gas production has surged.

#### Figure 2



Source: BC Budget, multiple years, and BC Ministry of Energy, Mines and Petroleum Resources.

This decline in gas royalty revenues is partly due to low market prices that have prevailed in recent years but also the presence of royalty credits that allow capital costs to be written off against royalties. The single largest royalty credit is the Deep Well credit, essentially applied to fracking techniques that now constitute 90 per cent of current production. The 2021 BC Budget estimates Deep Well credits at \$514 million in 2021/22, plus another \$71 million for additional credits for roads, pipelines and "clean infrastructure." This combined \$585 million in credits will consume two-thirds (67 per cent) of gross royalties in the current fiscal year.

Credits can also be stockpiled to be claimed against future royalties owing. Freedom of Information requests reveal that some 26 companies garnered just over \$700 million in deep-well credits in 2017/18 alone.<sup>16</sup> BC's

<sup>&</sup>lt;sup>15</sup> Government of BC. BC Oil and Wellhead Condensate Production, https://www2.gov.bc.ca/assets/gov/farming-naturalresources-and-industry/natural-gas-oil/production-statistics/oil\_and\_wellhead\_condensate.xls.

<sup>&</sup>lt;sup>16</sup> Parfitt, B. "BC Government Fossil Fuel Subsidy Data Finally Public," *Policy Note*, November 13, 2019, https://www.policynote.ca/deep-well-credits/.

Public Accounts cite outstanding credits of \$3.2 billion (as of the end of the 2020/21 fiscal year) that will reduce royalties payable on current and future production.<sup>17</sup> These findings echo the comments of a retired civil servant with expertise in the gas sector who estimated in a letter sent to the government that \$6 billion in royalties had been forgone over the past decade due to the deep well credit alone, and that currently "the Crown is giving out \$2 in available rebates for every \$1 in royalty/tax payable."<sup>18</sup>

The Independent Assessment further notes: "The deep well royalty and infrastructure credit programs can encourage extensive development beyond what would occur in their absence. They are not compatible with environmental goals to the extent that they contribute to more GHG emissions and land disturbance with its associated deleterious effects."

Royalty rates have also been further reduced for at least some of the future LNG Canada supply. Through its Progress Energy subsidiary, Petronas owns upstream gas development rights subject to a long-term royalty agreement with BC at much lower rates: whereas the gross royalty on gas for other production ranges from 9 per cent to 27 per cent of market value depending on conditions, the LTRA starts rates at 6.06 per cent then rises steadily over 22 years to 13.36 per cent.<sup>19</sup>

## **Directions for royalty reform**

BC's oil and gas royalty regime needs a major overhaul beyond the very limited options laid out in the Ministry's discussion paper. The discussion paper considers only a handful of minor technical questions for natural gas alone, such as which of three accounting approaches should be adopted. Acting in accordance with a climate emergency, we take the big picture: managing the royalty regime as part of a supply-side strategy aimed at the wind down of all fossil fuels by 2040 at the latest.

We recommend that the province:

#### Set a moratorium on issuing new leases or tenures

This may be a symbolic gesture since auctions of Crown land to oil and gas companies for exploration and drilling rights dropped to near zero in 2020/21, and the highest value Crown lands have already been leased. However, it would be an important statement as BC already has too much production in the queue if climate change targets provincially and globally are taken seriously. The province's official tally of gas reserves remaining is 1.8 trillion cubic metres,<sup>20</sup> or almost 30 years of supply at 2020 production levels. Buying back some of the outstanding leases should also be considered, to be consistent with a carbon budget approach that steadily reduces production.

<sup>&</sup>lt;sup>17</sup> Office of the Comptroller General. Public Accounts 2020/21, https://www2.gov.bc.ca/assets/gov/british-columbians-ourgovernments/government-finances/public-accounts/2020-21/public-accounts-2020-21.pdf.

<sup>&</sup>lt;sup>18</sup> Leyne, L. "Ex-bureaucrat's swan song raps gas royalties" in *The Times Colonist*, March 28, 2019, https://www.timescolonist.com/opinion/columnists/les-leyne-ex-bureaucrat-s-swan-song-raps-gas-royalties-1.23772739?fbclid=lwAR0UfIIO485LbGP3JbILXmEzswgEXea8tUs9vMhUNBIx\_YUj6B\_N467o6uw.

<sup>&</sup>lt;sup>19</sup> Government of British Columbia. Long Term Royalty Agreement with Progress Energy et al, June 26, 2015, https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-gasoil/uploads/long\_term\_royalty\_agreement.pdf.

<sup>&</sup>lt;sup>20</sup> BC Financial and Economic Review 2021. This likely understates long-term estimates of reserves, which tend to rise each year due to exploration and changes in technology.

The province should also place a moratorium on any sale of new leases or tenures where companies have relinquished such tenures. For example, in the Horn River Basin a great deal of natural gas industry activity has ceased, primarily because of high operating costs and the limited presence of liquids, relative to the south Montney region. The government is under no obligation to grant any companies in future years subsurface rights that have been relinquished.

#### Implement a simplified system aimed at capturing economic rents and ensuring a minimum carbon fee

A central public policy objective should be to maximize the returns (economic rent) to the public from the extraction of this collectively-owned resource, while reducing subsidies that incentivize production on more marginal sites. Economic rent is the market value of such "gifts of nature" (the oil and gas underground) above its costs of production. While auctions of Crown leases and royalty rates on production are one way of capturing economic rents, an alternative, as we consider at the end of this submission, is public ownership.

Many economists argue that capturing economic rents is best done through tax on cash flows (all revenues less all expenditures). Instead, the system for royalties is very complex and operates independently of the corporate income tax system, save for net royalties being eligible as a deduction on corporate income. A new approach to capturing economic rents should be harmonized with the corporate income tax system, in particular to have common treatment of capital expenditures for accounting purposes.<sup>21</sup>

However, while historical resource royalty regimes are concerned with sharing risk over long timelines for projects with large upfront capital investments, the need to wind down the industry means these factors are less important. Higher royalties are justified based on the inclusion of environmental and social costs of extraction, processing and transportation. Embedding a carbon fee at the wellhead, reflecting at a minimum the current BC carbon price, would apply carbon pricing to exported oil and gas, for which the carbon emissions are not counted in BC but in the importing jurisdiction. This minimum royalty should also reflect the need for just transition programs for workers during the phase-out period and the need for clean-up of old wells, so that the public is not saddled with those costs.

#### Create a more transparent framework and higher royalty rates for NGLs and condensate

The discussion paper ignores NGLs and condensate production, and thus misses an important part of actual production in BC, both in terms of volumes and value. Greater transparency is needed so that the public can assess whether it is getting a fair return on this valuable production. In contrast, consider the government's handling of information related to timber, another publicly-owned resource. A publicly accessible and searchable database furnishes information on all trees logged in the province. This includes the species of tree logged, the quality of the timber, the price paid per unit of timber logged (known as stumpage and effectively a royalty payment), the region where the trees are logged, and which company logged and paid the stumpage rates.

Details on exactly how much natural gas and liquids are produced by individual companies operating in the oil and gas sector should be publicly available just as they are for the province's forest sector. The range of products produced by the province's oil and gas industry is small compared to the forest industry. In addition, the number of companies operating in the oil and gas sector is a fraction of that in the forest sector.

<sup>&</sup>lt;sup>21</sup> As is the case in Norway and the United Kingdom. Mintz, J. and D. Chen. Capturing Economic Rents from Resources Through Royalties and Taxes, University of Calgary School of Public Policy, Research Paper No. 12-30, October 2012, https://journalhosting.ucalgary.ca/index.php/sppp/article/download/42400/30294/.

#### Eliminate subsidies going forward and restrict previously issued credits

A minimum net royalty should be developed to emphasize both higher royalty rates as well as eliminating inefficient subsidies for marginal and ultra-marginal wells, along with royalty credits that have greatly diminished royalty revenues from oil and gas. In particular, the deep well credit should be abolished as fracking is the dominant technology used already and there is no need for further incentives (even assuming a desire to expand production).

Incentives for marginal and ultra-marginal wells essentially lead to additional production that would otherwise be uneconomic. Indeed, as the Independent Assessment notes, "there may be some gaming of the system by restricting the rate of extraction in the first year so as to be deemed marginal and thus keep that designation for the life of the well."

Eliminating these subsidies alongside higher overall royalties would affect decision-making by companies such that marginal wells/deposits would be abandoned first, which is consistent with a wind down framework.

It is of concern that more than \$3 billion in royalty credits are outstanding. It may not be possible to retract these credits without payment of compensation, as companies made investments on the basis of those credits. However, their usage could be restricted in terms of a cap on amounts that can be claimed in any given year, or similarly, ensuring a minimum net royalty is paid per unit extracted.

#### Allocate half of royalties to local First Nations

Given the pressing need to wind down fossil fuel developments of all kinds, and in recognition of the disproportionate impact that natural gas industry operations have had and will continue to have on First Nations, the government should both increase royalty fees and ensure that half of all such revenues go to Treaty 8 First Nations.<sup>22</sup>

The Independent Assessment notes that "Between 2006 and 2020, economic benefits agreements with individual Treaty 8 First Nations in BC's northeast yielded approximately \$22 million in aggregate royalty revenue paid to the Nations." Over that time frame, however, the total royalties paid (including Crown leases) was about \$17 billion. Thus, the share going to those First Nations is a mere 0.1 per cent of the total.

When viewed against the staggering impacts that natural gas industry activities have had on Treaty 8 lands including but not limited to forest clearing for well pads, compressor stations, pipeline corridors and seismic lines; a growing network of dams, reservoirs and dugouts to impound freshwater for use in the fracking process; and the mushrooming number of pits used to store toxic wastewater—this level of compensation is an insult.

#### Think outside the box

If BC really wants to extract a high share of economic rents as oil and gas production is phased out, it should strongly consider taking the sector under public ownership. Companies invest in order to grow and generate

<sup>&</sup>lt;sup>22</sup> Supreme Court of BC. Yahey v. British Columbia [2021] BCSC 1287, https://www.canlii.org/en/bc/bcsc/doc/2021/2021bcsc1287/2021bcsc1287.html?autocompleteStr=yahey%20&autoco mpletePos=14.

revenues and profits for investors, a business model that may well be inconsistent with the wind down we are seeking.

An alternative would be to use a Crown energy corporation as a focal point for the transition. This would also enable full economic rents to be captured, as in the case of Norway, a jurisdiction similar to BC in that it is simultaneously pursuing fossil fuel exports and domestic climate policies, and has been wrestling with the contradictions between the two. Norway's approach to offshore oil production has historically been aimed at capturing national economic benefits in the form of employment and economic activity, and includes a stateowned oil company and a sovereign wealth fund. Their tax and royalty regime garners some 78 per cent of economic rents, which is invested in a sovereign wealth fund for a future when oil is depleted.<sup>23</sup>

Public ownership would likely mean buying back leases from existing corporate holders, or taking them back from companies that do not wish to produce under the new regime outlined here, and taking over extraction and processing operations ourselves, with a wind-down schedule hardwired into the business plan of the crown corporation.

# Conclusion

The royalty regime for oil and gas is an important element in the regulation of management of the oil and gas sector. The province's review is most welcome, as it is widely agreed that the regime is excessively complicated, fails to provide an adequate return to the public, and is contrary to BC's climate and environmental goals. That said, the government's discussion paper runs contrary to provincial climate targets by using a framework that is overly obsessed with industry "competitiveness" and growth. It also misses the reality of the industry on the ground by limiting its discussion to gas alone rather than condensate and liquids. We hope that this submission helps to set the record straight.

<sup>&</sup>lt;sup>23</sup> Bang, G. and B. Lahn. "From Oil as Welfare to Oil as Risk? Norwegian Petroleum Resource Governance and Climate Policy" in Climate Policy, November 2019, https://doi.org/10.1080/14693062.2019.1692774.

